

## Letters to the Editor: How or to Whom Do We Communicate LCA Results?

### Comments to the Editorial in Int. J. LCA 5 (3) 125 (2000) by William Owens

The Int. J. LCA should endeavour to advance LCA in all its aspects. Let me support the editorial that the journal should not focus exclusively on LCA methodology. In my opinion, the essential barrier in using LCA within industry is not methodology, but the barrier is the continuing need for inventory data. To practice LCA means having the necessary data to cover all parts of the system, knowing the data's utility and uncertainty are adequate for the study's goal and scope, and making sure that the data are adequate and will fit the impact assessment methodology that you have chosen.

This presumes that internal data bases are necessary for industry to rapidly conduct LCAs for evaluation during product development.

The data problem in my view is essentially three-fold:

- Do you have data for all the necessary modules or unit processes of the system? Energy, transport, and key raw material modules are widely applicable across many systems, along with treatment and waste disposal modules. However, almost every system has unique unit processes or use phases. These data gaps are where data collection must be engaged for almost every study.
- An often overlooked question: are the available data parameters adequate for your analysis, particularly the complex categories for the impact assessment? The data to be collected for greenhouse gases and acid precursors are fairly well known and now generally incorporated in inventory data collection work. In contrast, an accurate photochemical smog indicator requires that the VOCs be speciated or you have considerable uncertainty to accept. Toxicity data are problematic on two counts. First, the thousands of possible substances involved in inventory data collection and, second, the required parallel toxicological data for each substance needed in an impact assessment characterization.
- In practice, you then have identified (1) the 'adequate and available' inventory data that you have in hand and (2) the 'inadequate data' and 'data gaps' that must be revised or filled, respectively. For industry, the management objective for any study then becomes what needs to be done to address the inadequacies and gaps both rapidly and within a decent budget.

I'm concerned that devoting the journal exclusively to developing LCA methods ignores the fact that day-to-day practice requires wide accessibility to adequate data. To widely

promote the use of LCA, the journal needs to devote efforts to several activities beyond LCA methodology. The journal must promote finding improved sources of key data and ensuring that the data can be easily assembled and used.

Examples are:

- Improvement of public data on core system modules such as energy acquisition, electrical generation, waste handling, transportation, and widely used raw materials such as steel, aluminium and wood pulp. This would mean soliciting papers on these modules and encouraging that they be made available in public electronic form, even posting them on the journal's Web site.
- Given the current reliance on petrochemical feed-stocks and high interest in their comparison with renewable feedstocks, detailed reviews and analyses of these subjects would be most helpful, beginning with petroleum and gas extraction, refinery operations and agricultural operations. Again, direct solicitation and case study comparisons should be encouraged by the journal.
- Seeing that the sound, but rudimentary, SPOLD data exchange format moves forward to meet the demands set forth in the ISO 14040 series of standards. Then, publicly encouraging the numerous data bases to improve their ability to mesh together so that users can effectively draw from them and obtain a reasonable understanding of the data sources, assumptions, and quality. I firmly believe that data exchange is essential. If one can fill three outstanding data gaps by using three different data bases, then the cost and time to gather these data anew are effectively avoided. A neutral, balanced review of data exchange every two years and a comparison of whether a data base can freely exchange with others would be a useful exercise.

Thus, I believe the journal has a very constructive role to play in developing LCA well beyond developing methodologies. Fulfilling this role will take a deliberate vision, and a firm purpose over time to make that vision a reality. I strongly urge that the editor, the editorial board and publisher take up the task.

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